

CLAIMS:

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- 5 1. A method for modifying a polyester comprising treating said polyester with a polyesterase enzyme for a time and under conditions to modify the properties of said polyester.
2. The method according to claim 1, wherein said polyester is a resin, film, fiber, yarn or fabric.
3. The method according to claim 1, wherein said polyester is an aromatic polyester.
- 10 4. The method according to claim 2, wherein said polyester fiber, yarn or fabric is a textile product and does not comprise a stain.
5. The method according to claim 1, wherein said polyesterase has at least 10% greater hydrolysis in a UV and/or a MB assay than the control.
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- 15 6. The method according to claim 5, wherein said polyesterase has at least 50% greater hydrolysis in a UV and/or a MB assay than the control.
7. The method according to claim 6, wherein said polyesterase has at least 100% greater hydrolysis in a UV and/or a MB assay than the control.
- 20 8. The method according to claim 4, wherein said textile product is modified in its properties of pilling, pilling prevention, weight, feel, appearance and/or luster.
9. The method according to claim 8, wherein said polyester textile is treated prior to the application of a finish.
10. The method according to claim 1, wherein said polyesterase is derived from animal, plant, fungal or bacterial origin.
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- 30 11. The method according to claim 7, wherein said polyesterase is derived from *Absidia* spp.; *Acremonium* spp.; *Agaricus* spp.; *Anaeromyces* spp.; *Aspergillus* spp.; *Aeurobasidium* spp.; *Cephalosporum* spp.; *Chaetomium* spp.; *Coprinus* spp.; *Dactyllum* spp.; *Fusarium* spp.; *Gliocladium* spp.; *Helminthosporum* spp.; *Humicola* spp.; *Mucor* spp.; *Neurospora* spp.; *Neocallimastix* spp.; *Orpinomyces* spp.; *Penicillium* spp.; *Phanerochaete* spp.; *Phlebia* spp.; *Piromyces* spp.; *Pseudomonas* spp.; *Rhizopus* spp.; *Schizophyllum* spp.; *Trametes* spp.; *Trichoderma* spp.; and *Ulocladium* spp.; *Zygorhynchus* spp.; *Bacillus* spp.;

Cellulomonas spp.; Clostridium spp.; Myceliophthora spp.; Pseudomonas spp.; Thermomonospora spp.; Thermomyces spp.; Streptomyces spp.; Fibrobacter spp.; Candida spp.; Pichia spp.; Rhodotorula spp.; or Sporobolomyces spp..

12. A method for improving the textile characteristics of a polyester article, comprising the steps of:

- (a) obtaining a polyesterase enzyme;
- (b) contacting said polyesterase enzyme with said polyester article under conditions and for a time suitable for said polyesterase to produce a modified polyester article and produce a modified polyester article.

13. The method according to claim 9, wherein said polyester article comprises a fiber, yarn or fabric and said fiber yarn or fabric is subsequently incorporated into a textile.

14. A polyester article produced according to the method of claim 1.

15. The polyester article according to claim 14, wherein said composition has an increased resistance to stains.

16. The polyester article according to claim 14, wherein subsequent to said treating, said composition is treated with a cationic compound.

17. The use of polyesterase to improve the textile characteristics of a polyester.

18. The method according to claim 1, wherein said treatment occurs in the presence of polypropylene glycol or glycerol.

19. A method of determining the polyesterase activity of a biological material comprising the steps of:

- (a) preparing an aqueous solution of a biological material; and
- (b) subjecting said aqueous composition comprising said biological material to conditions and for a time wherein it is determined whether said biological material comprises polyesterase activity.

20. A kit for carrying out an assay for polyesterase activity comprising:

- (a) a sample of polyester;
- (b) instructions for preparing a biological material for assaying whether said biological material comprises polyesterase activity.